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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,266	05/16/2005	Hiroshi Watanabe	MAT-8684US	3761
23122	7590	07/31/2007		
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			EXAMINER CHIMIAK, EMILY ANN	
			ART UNIT 1733	PAPER NUMBER
			MAIL DATE 07/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/535,266	Applicant(s) WATANABE, HIROSHI	
	Examiner Emily Chimiak	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) 6-8, 12 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 13-15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/11/2006, 5/16/2005</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Claims 6-8, 12 and 16 were withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply given by phone on July 13, 2007 through Mr. Ashery.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. (see the English translation of JP 2002268577) in view of Chung (US 6496373).

As to claim 1, Kaneko et al. discloses a method of manufacturing a plasma display device

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having a panel in which a pair of substrates having transparency at least on a front side, the substrates being oppositely disposed so that discharge space and discharge cells are formed between the substrates, and a metallic holding plate 3 that supports the panel via a thermal conductive material (see the machine translation, [0002], [0006] and [0019]) the method comprising:

- forming a pull-to-remove type adhesive 50, which are thermally conductive in order to allow heat to travel from the panel to the chassis;

- applying the adhesive to panel 1B and the holding plate 3 and

- bonding the panel to the holding plate together ([0023]). Kaneko et al. does not disclose that the adhesive is cured by application of heat as well as pressure. Chung teaches using a compressible and melt-flowable thermally conductive interface that is tacky and pressure sensitive in one embodiment in order to accommodate planarity tolerances between the substrates and is preferably cured under heat and pressure to reduce voids in the joint (abstract, col. 2 lines 12-13 and 20-24 and col. 6 lines 26-35). The use of a curable pressure sensitive adhesive would have additionally eliminated the need to clamp the components together. It would have been obvious to one of ordinary skill in the art at the time of invention to use the heat and pressure-curable pressure sensitive adhesive disclosed by Chung as the pressure sensitive adhesive disclosed by Kaneko et al. in order to form a joint that accommodates planarity tolerances between the substrates and has a reduced number of voids as well as to eliminate the need for clamping the components together after assembly.

As to claim 2, the pressure sensitive adhesive tapes are arranged on the width of the chassis and the panel and holding plate are bonded together (see [0008] and [0019] of the machine translation). Kaneko et al. is silent as to the method of bonding. However, Chung teaches bonding under heat and pressure simultaneously in order to reduce the number of voids and cure the adhesive (abstract, col. 2 lines 12-13 and 20-24 and col. 6 lines 26-35). It would have been obvious to one of ordinary skill in the art at the time of invention to cure the pressure sensitive adhesive described in the rejection of claim 1 under simultaneous pressure and heat as taught by Chen in order to prevent the formation of voids.

As to claim 4, Kaneko et al. does not disclose a cure time. However, because applicant uses the same acrylic-based adhesive disclosed by Kaneko et al. (see page 7, lines 12-13 of the applicant's Specifications and [0021] of Kaneko et al.), the adhesive disclosed by Kaneko et al. is considered to cure in 5 minutes.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. and Chung as applied to claim 1 above, and further in view of Yoshimura et al. (US 6847415). Although Kaneko et al. discloses that adhesive has been known to be stuck on the outside surface of the panel, absent unexpected results there is no mention of where the adhesive is applied in the present disclosed invention [0005]). Kaneko et al. does not disclose that heat and pressure are applied to the substrate to which the adhesive is not applied. However, Yoshimura et al. teaches a method of bonding through thermo compression wherein the adhesive is provided for on the chassis and the display panel is adhered. Yoshimura et al. discloses that thermocompression is

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only applicable to the panel and not to the chassis, where compression alone must be used in order to protect the electrodes exposed on a surface directing downward (col. 9 lines 21-27 and 56-63). It is noted that the display panel disclosed by Kaneko et al. discloses that the same arrangement with respect to the electrodes is typically used in the art ([0005]). It would have been obvious to one of ordinary skill in the art at the time of invention to apply adhesive to the chassis and to apply heat to the panel side as taught by Yoshimura et al. in the method disclosed by Kaneko et al. because the exposed electrodes must not be subjected to heat.

6. Claim 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. and Chung as applied to claim 1 above, and further in view of Kim et al. (US 20030025427).

As to claim 5, Kaneko et al. does not disclose a groove in which a portion of the adhesive flows is formed at a periphery of the holding plate. However, Kim et al. teaches forming a plurality of projections on the chassis base to enlarge the attaching area of heat conductive media 24 (24 corresponds to the adhesive tape disclosed by Kaneko et al). It would have been obvious at the time of invention to one of ordinary skill in the art to apply grooves to the chassis disclosed by Kaneko et al. as taught by Kim et al. in order to enlarge the attaching area.

As to claim 9, Kaneko et al. discloses forming a plurality of pull-to-remove thermally conductive adhesive strips but does not disclose including a spacer. However, Kim et al. teaches including a spacer formed with adhesives coated on both sides in addition to including the heat conductive media 24 in order to enhance the coupling force between the PDP and chassis and to support the gap between the PDP and chassis ([0032] and [0033]). It is noted that the adhesive would be of the composition disclosed by Kaneko et al. in order to allow recycling of the PDP

components. It would have been obvious to one of ordinary skill in the art at the time of invention to include a spacer as taught by Kim et al. in the method disclosed by Kaneko et al. in view of Chung in order to support the gap.

7. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al., Chung and Kim et al. as applied to claim 9 above, and further in view of Liebing et al. (US 6479563).

As to claim 10, Kaneko et al. as modified by Chung and Kim et al. does not disclose that the spacer is in the form of a bead ([0033]). However, Liebing et al. teaches that providing a thermally conductive adhesive that includes spherical spacers to easily achieve a defined distance between adhering parts (col. 1 lines 8-9 and col. 2 lines 58-64). Again it is noted that the adhesive would be of the composition disclosed by Kaneko et al. in order to allow recycling of the PDP components. It would have been obvious to one of ordinary skill in the art at the time of invention to use a bead as disclosed by Liebing et al. as the in order to easily achieve a defined distance between adhering parts. It would have been obvious to one of ordinary skill in the art at the time of invention to use a bead as taught by Liebing et al. as the spacer disclosed by Kim et al. in the method taught by Kaneko et al. in view of Chung in order to support the gap easily.

As to claim 11, the spacer disclosed by Kaneko et al. as modified above by Chung and Kim et al. teaches a spacer that is a temporary fixing member. It is noted that the spacers do not prevent the panel from joining the holding plate, i.e. the spacer is a temporary fixing member in proper positioning of the panel and the holding plate.

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Allowable Subject Matter

8. Claims 13-15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. No combination of references teaches a motivation to extend the exposed adhesive tape along the outer rim of the chassis. However, it is noted that Oishi et al. (US 20010005308) teaches applying heat radiating fins in combination with side frames (cooling plates) to the side of the chassis to which the driving circuits are attached in order to provide further cooling ([0010] and [0027]). Bunyan et al. (US 6054198) further suggests bonding heating fins and cooling plate with a pressure sensitive adhesive (col. 6 lines 29-38 and col. 8 lines 16-18). Alternatively, Kurumada (US 6366264) discloses a motivation to provide the main components of the driving circuit on the side of the chassis through heat dissipating sheet and adhesive (col. 2 lines 45-49, col. 5 lines 29-36)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Emily Chimiak** whose telephone number is (571)272-6486. The examiner can normally be reached on Monday-Friday 8:30-5:30 EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571)272-6486. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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